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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,896	02/17/2005	Hiromichi Ishibashi	10407-124US (A3057MT-US1)	1975
570	7590	05/17/2006	EXAMINER	
AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			NGUYEN, LINH THI	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,896	<b>Applicant(s)</b> ISHIBASHI ET AL.	
	<b>Examiner</b> Linh T. Nguyen	<b>Art Unit</b> 2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Optical Disc Drive for Controlling Laser Emission.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 11 are rejected under 35 U.S.C. 102(b) as being unpatentable by McGee (US Patent Number 5067122).

In regards to claims 1 and 11, McGee discloses an optical disc drive (Fig. 1) and a method comprising: a laser light source for emitting a laser beam (Fig. 1, element L) of which the intensity is changeable with the amount of drive current supplied thereto (Fig. 2, element I); a first photodetector (Fig. 1, element D1-D4), which receives a portion of the laser beam that has been emitted from the laser light source and then reflected from an optical disc (Column 5, lines 3-7), thereby generating a readout signal (Column 5, lines 8-10); a second photodetector (Fig. 1, element M), which receives another portion of the laser beam that has been emitted from the laser light source

(Column 5, lines 18-21), generates an electric signal of which the level represents the power of the laser beam received (Column 5, lines 20-25), and outputs the electric signal as a light quantity detection signal (Column 5, lines 24-25); and a feedback control loop, which compares the level of the light quantity detection signal with a predetermined target value ( $V_m = I_m R = V_{ref}$ ) and controls the amount of the drive current so that the level of the light quantity detection signal approaches the target value (Column 5, lines 26-44), wherein in reading data from the optical disc ( $I_m$  is read from the optical disc by the monitor diode; Column 5, lines 17-20), the target value is changed so as to compensate for a variation of the sensitivity of the second photodetector (Column 5, lines 40-44), thereby controlling the power of the laser beam emitted from the laser light source (Column 5, lines 43-44), said variation of the sensitivity of the second photodetector being detected when a write power optimization is conducted (Column 9, lines 54-57).

In regard to claim 2, McGee discloses the optical disc drive of claim 1, wherein the target value is set to a lower value as the sensitivity of the second photodetector decreases from its initial value (Column 5, lines 40-44).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGee in view of Shimoda (US Publication number 2002/0036963).

In regards to claim 3, McGee discloses the optical disc drive of claim 1 above. McGee does not but Shimoda discloses the optical disc drive, comprising: target value setting means for sequentially changing the target value in writing data on the optical disc and eventually the power of the laser beam emitted from the laser light source (Paragraph [0067];  $\beta$  is the target value base on the trail write of the optical disk); means for writing information on the optical disc with the power being changed sequentially (Paragraph [0074] and [0081], lines 9-10; the power is record in the PCA); best power searching means for determining the best target value to write the data on the optical disc by the readout signal obtained from the information that has been written on the optical disc (Paragraph [0082] and [0089]; optimum power is found using the  $\beta$  value); and means for determining a target value for reading the data from the optical disc based on the best target value to write the data on the optical disc (Paragraph [0089], lines 8-13). At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine an optical disk drive of McGee to test the target value and recording the best value on the optical disk as taught by Shimoda. The motivation for doing so would have been to optimize the emission power of the semiconductor laser with good accuracy (Paragraph [0017], lines 13-14).

In regards to claim 4, McGee does not but Shimoda discloses the optical disc drive, wherein the target value for reading the data from the optical disc is defined to be a constant number of times as large as the best target value to write the data on the optical disc (Paragraph [0081], lines 6-7). It would have been obvious to person of ordinary skill in the art modify McGee disc drive to have a target value defined as constant number of times as taught by Shimoda. The motivation for doing so would have been to determine a target value at a set time.

In regards to claim 5, McGee does not but Shimoda discloses the optical disc drive, wherein the best power searching means determines the best target value to write the data on the optical disc by the alternating current amplitude of the readout signal (Fig. 12A-C). It would have been obvious to person of ordinary skill in the art to modify McGee optical disc drive to have a searching means to find the best power value by the current amplitude of the readout signal as taught by Shimoda. The motivation for doing so would have been to create an accurate signal to determine the different powers.

In regards to claim 6, McGee does not but Shimoda discloses the optical disc drive, wherein the best power searching means determines the best target value to write the data on the optical disc by a duty ratio of the readout signal (Paragraph [0083]; the value of peak to peak value is obvious a ratio as mention in background in paragraph [0012]). It would have been obvious to a person of ordinary skill in the art to

modify McGee optical disc drive to have a searching means to find the best power value by the duty ratio of the readout signal. The motivation for doing so would have been to determine the range of the emission power.

In regards to claim 7, McGee does not but Shimoda discloses the optical disc drive, further comprising a memory element to store a value representing a difference between a target value, which is derived from information that is pre-stored on the optical disc about the power of the laser beam in writing the data on the optical disc, and the target value determined by the best power searching means (Fig 2 and 3). It would have been obvious to a person of ordinary skill in the art to modify the optical disc drive of McGee to have a pre-stored power information on the disc as taught by Shimoda. The motivation is the same as claim 3 above.

In regards to claim 8, McGee does not but Shimoda discloses the optical disc drive, wherein the value stored on the memory element is recorded as management information on the optical disc (Fig. 3, it is stored in PCA and it is well known in the art that PCA is within the management area). It would have been obvious to person of ordinary skill in the art to modify McGee optical disc drive to have the stored memory element in the management area of the optical disc as taught by Shimoda. The motivation would have been to access the management area to access the value before recording/reproducing.

In regards to claim 9, McGee does not but Shimoda discloses the optical disc drive, wherein the target value, derived from the information that is pre-stored on the optical disc (Paragraph [0082]), is corrected with the value stored on the memory element to represent the difference, and wherein the corrected target value is used in reading the data from the optical disc (Paragraph [0090]). It would have been obvious to a person of ordinary skill in the art to modify McGee optical disc drive to have the corrected target value on the optical disc as taught by Shimoda. The motivation is the same as claim 3 above.

In regards to claim 10, McGee does not but Shimoda discloses the optical disc drive of claim 9, further comprising: decision means for obtaining a timer upper limit value using the value stored on the memory element to represent the difference (Paragraph [0082] and [0083]); and a timer, which keeps counting until its count reaches the timer upper limit value, wherein when the count of the timer reaches the timer upper limit value, the value stored on the memory element to represent the difference is updated into a new value (Paragraph [0082] and [0090]; lines 1-2). It would have been obvious to person of ordinary skill in the art to modify McGee optical disc drive to have a timer using the value stored on the memory as taught by Shimoda. The motivation is the same as claim 3 above.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh T. Nguyen whose telephone number is 571-272-5513. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN  
May 8, 2006

  
ANDREA WELLINGTON  
SUPERVISORY PATENT EXAMINER